Capability Gap Brief

Assault Support

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FMID Top Ten Gap Listing

FMID Section	Priority
Unmanned Aircraft Systems	1
Assault Support	2
Target Acquisition	3
Counter fire / Targeting	4
Fire Support Coordination	5
Information Operations	6
Personal Equipment	7
Small Arms / Crew-Served	8
Mobility / Counter-Mobility	9
Rockets / Artillery	10
Riverine / Special Operations	11
Public Affairs	12
Offensive Air Support	13
Electronic Warfare	14
Civil Affairs	15
Offensive Anti-Air Warfare	16

FMID Top Ten Gap Listing

G – Gap, E – Excess, S – Shortfall, N - NA

JCA's: High Pri and total number supported	*FMID Section/* **# MCTL tasks**	Description of Capability Gap by FMID section across applicable tasks	FMID Pri	G/E/ S/N	Gap Mitigation	
					POM-10	Beyond
Conduct Ops Movement & Maneuver/ **15 JCA'a supported**	*Assault Support/* **Supports 21 of 49 FMID FAA tasks**	**Capability gaps in range, speed, and payload. CH 53K and MV 22 mitigate in POM 10 but capacity gaps will still exist at current funding profile. (End strength, MARSOC, ground mobility increases).**	2	G	**Y**	**Y**

Capability Analyzed
Assault Support

15 JCA's supported: Hi Pri Joint Access & Access Denial Ops
21 FMID MCT's supported : Hi Pri 1.3.1 Conduct Maneuver
Deficiencies in Conditions: Unable to accomplish STOM missions as described in STOM CONOPS. Unable to provide adequate fixed-wing assault support sorties to support MCOs/LCs. Potential critical shortage with end-strength increase and/or MARSOC.
Deficiencies in Standards: Unable to support movement of Bn size force 110nm in one 8-hour period of darkness with current inventory. Unable to lift planned LAV w/ current R/W inventory.
Possible DOTMLPF Implications
D, O, T, M, P

Inputs utilized for analysis:

- 2015 MEB Baseline
- MAGTF FAA dtd Jun 2006
- STOM CONOPS
- Grey Book
- KC-130J Requirements Study
- Assault Support Capabilities Analysis
- Marine Corps Midrange Threat Estimate: 2005-2015
- Current Funding Data: POM-08, Supplemental, and PDM-IV Dec '06
- MROC DM 61-2004 dtd 27 Jul 04

Gap, Excess, or Shortfall

Doctrine	**STOM, DO, MCO** **Assault Support – Combat Assault Transport, Aerial Refueling, Aerial Delivery, Air Evac, TRAP, Air Log Supt, Battlefield Illumination**
Organization	**•Effects MEU, MEB, MEF, JTF** **•End strength increase** **•MARSOC** **•ACE Mix**
Material	**CH-46E, MV-22B, CH-53D/E/K, UH-1N/Y, KC-130F/R/T/J**

Current PORS

MV-22B - Capability to self deploy, increase in speed, range, payload and survivability over legacy CH-46E and CH-53D aircraft.

CH-53K – Advanced heavy lift rotary wing aircraft. Externally lift 27,000 lbs to a distance of 110 nm. Increases in range, payload, survivability and maintainability over legacy CH-53E aircraft.

UH-1Y – 85% commonality with AH-1Z. Increase in speed, range and payload over legacy UH-1N aircraft.

KC-130J – Improved survivability, fuel delivery capacity, speed, range and maintainability over legacy KC-130F/R/T aircraft. Requirement is 51, fiscally limited to 45 (PDM-IV Dec '06)

KC-130T Avionics Modernization Program (AMP) – Designed to improve KC-130T avionics capabilities to a KC-130J level capability. Will allow legacy KC-130T's freedom of operation in all theatres.

OSA – UC-12, UC-35, C-9 and C-20- Provide time sensitive air transport of high priority passengers and cargo between and within a theater of war.

Impact on the MAGTF

- **Explain how the gap was identified and why it is so important to the Marine Corps to mitigate.**
  - **Gaps identified through MEB ACE mix analysis, V-22 Requirements Analysis, KC-130J Requirements Study, and PMA-207 programmatic briefs.**

    - **Shortfall in critical Heavy Lift Assault Support assets precludes execution of STOM as envisioned.** (MCT 1.3.1 Conduct Maneuver, MCT 1.6.2 Conduct Offensive Forms of Maneuver, MCT 1.4.1 Conduct Mobility Operations, MCT 1.4 Maintain Mobility, MCT 1.3 Conduct Maneuver and Close Forces, MCT 1.2.4 Deploy Tactical Forces)
    - **Cannot move required amount of equipment to specified distance within STOM timeframe constraints.** (MCT 1.3.1 Conduct Maneuver, MCT 1.6.2 Conduct Offensive Forms of Maneuver, MCT 1.4.1 Conduct Mobility Operations, MCT 1.4 Maintain Mobility, MCT 1.3 Conduct Maneuver and Close Forces, MCT 1.6.6.9 Conduct Security and Stability Operations (SASO), MCT 1.2.4 Deploy Tactical Forces)
    - **MV-22 external lift capability is being out-paced by weight growth of vehicle. Lift capability should be tested beyond 10,000 lbs and 130 kts.** (MCT 1.3.1 Conduct Maneuver, MCT 1.6.2 Conduct Offensive Forms of Maneuver, MCT 1.4.1 Conduct Mobility Operations, MCT 1.4 Maintain Mobility, MCT 1.3 Conduct Maneuver and Close Forces, MCT 1.6.6.9 Conduct Security and Stability Operations (SASO), MCT 1.2.4 Deploy Tactical Forces)
    - **Shortfall in aerial refueling capacity leads to dependence on Joint assets or lack of aerial refueling sorties available.** (MCT 1.3.1 Conduct Maneuver, MCT 1.6.2 Conduct Offensive Forms of Maneuver, MCT 1.4.1 Conduct Mobility Operations, MCT 1.4 Maintain Mobility, MCT 1.3 Conduct Maneuver and Close Forces, MCT 1.6.6.9 Conduct Security and Stability Operations (SASO), MCT 1.2.4 Deploy Tactical Forces)

Impact on the MAGTF (con't)

- **Shortfall in fixed-wing aerial refueling/transport jeopardizes VMGR's ability to accomplish all MAGTF mission tasking concurrently.** (MCT 1.3.1 Conduct Maneuver, MCT 1.6.2 Conduct Offensive Forms of Maneuver, MCT 1.4.1 Conduct Mobility Operations, MCT 1.4 Maintain Mobility, MCT 1.3 Conduct Maneuver and Close Forces, MCT 1.4 Maintain Mobility **,** MCT 1.6.6.9 Conduct Security and Stability Operations (SASO), MCT 1.2.4 Deploy Tactical Forces)
- **Heavy/Medium lift support DO execution and log sustainment. Capacity gap is dependent on scale of operation.** (MCT 1.3.1 Conduct Maneuver, MCT 1.6.2 Conduct Offensive Forms of Maneuver, MCT 1.4.1 Conduct Mobility Operations, MCT 1.4 Maintain Mobility, MCT 1.3 Conduct Maneuver and Close Forces, MCT 1.4 Maintain Mobility **,** MCT 1.6.6.9 Conduct Security and Stability Operations (SASO), MCT 1.2.4 Deploy Tactical Forces)
- **C-9 aircraft is facing obsolescence due to commercial market divesture. Safe and cost effective operation will be an issue early-mid next decade. Needs replacement aircraft.** (MCT 1.4.1 Conduct Mobility Operations, MCT 1.4 Maintain Mobility, MCT 1.6.6.9 Conduct Security and Stability Operations (SASO), MCT 1.2.4 Deploy Tactical Forces)
- **UC-12 needs multiple expensive and timely upgrades and repairs. Replacement is a more cost effective option. Failure to repair/ replace will require tactical Assault Support assets to do their mission.** (MCT 1.4.1 Conduct Mobility Operations, MCT 1.4 Maintain Mobility, MCT 1.6.6.9 Conduct Security and Stability Operations (SASO))

Key Attributes Needed to Resolve the Gap

- **Most of Assault Support's gaps are capacity gaps vice capability gaps.**
- **Increase in weight of the MAGTF (up-armored HMMWV, JLTV, MTVR) will require more loads to be lifted by CH-53Ks only, vice MV-22 or CH-53K.**
  - This will require more CH-53Ks in the MEB ACE IOT accomplish the STOM metrics of moving a Bn ashore from 110 nm in one 8 hour period of darkness. (This capacity gap is mitigated with the current planned increases to the CH-53 community with the 202K Marine Corps and the Aviation Transition Strategy)
  - **MV-22 was designed for 15,000 lbs external lift, but is limited to 10,000 lbs because it has not been test above 10,000 lbs.**
    - Testing should be conducted to raise the weight limit, and find material improvements for further methods to increase performance and airspeed.
    - This will increase the payload capability of the MV-22, decrease the CH-53K-only payloads, and decease the STOM timeline.

Key Attributes Needed to Resolve the Gap

- **The KC-130J Requirements Study, sponsored by HQMC DCA APP, determined that the current POR of 51 KC-130Js (and 28 KC-130Ts) leaves the Marine Corps at a medium-high to high risk level to accomplish all tasked missions.**
  - PDM-IV Dec ’06 increased the current purchase to 45 KC-130Js.
  - The Study recommended an inventory of 85 KC-130Js resulting in a medium risk level to meet tasking during simultaneous MCO and LC, 1 test aircraft, Depot pipeline, and half of requirement for training.
- **The KC-130T Avionics Modernization Program will match many of the USMCR KC-130Ts to a KC-130J capability (NVL, DECM, Avionics) and upgrades necessary CNS/ATM mandates.**
  - Ensures world-wide deployability and eliminates the Navigator crew position.

Key Attributes Needed to Resolve the Gap

- **Within the Operational Support Aircraft, the UC-12 and C-9 will need replacing next decade.**
  - The UC-12 is facing expensive and time consuming replacement of the outer wing spar and CNS/ATM upgrades (avionics).
    - Congress has provided funding for 1.6 replacement aircraft. More funding is needed to continue to replace the capability.
      - Replacement aircraft includes ASE equipment.
  - Current domestic commercial DC-9 fleet will be divested by 2011. Replacement parts will be expensive to procure or manufacture.
    - USN has purchased C-40s to replace some of their C-9s. Marine Corps should replace its C-9s through this POR.

- Key Attribute Summary
  - More CH-53K sorties needed to support STOM.
  - MV-22 not tested to full potential.
  - More KC-130Js to support MAGTF tasking.
  - KC-130T AMP to increase capability and prevent obsolescence.
  - UC-12 and C-9 recapitalization to prevent loss of capability.

New or Current Capability Issues

- **Was the gap identified because we are establishing a new capability? An addition or improvement of an existing capability? If yes, explain:**
  - No, retaining Assault Support capability.
  - Yes, we ARE improving an existing capability in that we are executing Assault Support from Amphibious shipping out to 110 nm during 8 hrs of darkness.

- **Is there a similar or duplicative capability gap being analyzed? If yes, can this gap be folded into that effort?**
  - No.

- **Is the basic capability MC unique? If not, describe how this capability is addressed by other services. If another service also has a capability gap, describe its mitigation initiatives.**
  - Assault Support from Amphibious shipping is USMC unique.
  - Aerial Refueling C-130s is not unique. USAF has HC-130s and MC-130s that are currently in the JCIDS process to be recapitalized. They are also working on AMPing some of their non-aerial refueling C-130s.
  - OSA is not unique. Each Service has OSA.

Integration Concerns

- **Describe critical linkage(s) to other Integration Divisions. If none, so state.**
  - Critical linkage within FMID to number of Bn's and # & size (weight) of Bn equipment (i.e. JLTV, tactical mobility assets).
  - Critical linkage to LID due to heavier equipment requiring Heavy vice Medium lift.
  - Critical linkage to SBID- size of Amphibious ships limits Assault Support lift capacity.

Doctrine/OTLPFM Analysis

- **What published doctrine addresses the capability? Is the published doctrine current?**
  - MCWP 3-2 Aviation Operations. Not current.
  - MCWP 3-24 Assault Support. Current.
  - MCWP 3-27 Operational Support Airlift. Current.
  - MCWP 3-31 Ship To Objective Maneuver. New pub awaiting development.
- **What doctrinal changes result from new/enhanced capabilities being introduced to mitigate this gap?**
  - MCWPs 3-2 and 3-24 will need to be updated as new PORs have doctrinal impacts.

D/Organization/TLPFM Analysis

- **Assumptions: organizational change issues limited to adjustments within existing force structure.**
- **What organizational changes, if any, will eliminate or mitigate the capability gap?**
  - Increase to number of CH-53K squadrons. (Supported by Aviation Transition Strategy and 202K Marine Corps)
  - Possible increase to number of KC-130J squadrons.

DO/Training/LPFM Analysis

- **How could training be modified or provided to mitigate or eliminate the gap?**
  - Training in itself will not mitigate this gap.
- **What training requirements are identified for the fielding of new equipment?**
  - Increase in CH-53 and H-1 FRSs T/O&E to accommodate increased throughput (202K Marine Corps supports H-1 increase). Increase to KC-130J JMATS to accommodate increased throughput.
- **Who can provide the required training?**
  - Training requirements will be delineated in the AvPlan and by execution of the platform TTF Plans.
  - Initial KC-130J MOS training is provided by USAF.
  - OSA training is provided by commercial vendors.

DOT/Leadership/PFM Analysis

- **Can leadership decisions mitigate gap? If yes explain.**
  - Yes, support increase in Heavy-lift within the MEB ACE mix. Support increase POR of CH-53K and KC-130J. Support OSA recapitalization.
- **What leadership experience/change is required to meet or mitigate gap? If yes explain.**
  - None.
- **Is organizational leadership needed to support change? If yes explain.**
  - No.

DOT/Personnel/FM Analysis

- **Describe personnel changes which can be done to eliminate gap?**
  - There are no personnel changes that will mitigate this gap.
- **Can MOS realignment mitigate the gap?**
  - No.

DOTP/Facilities/M Analysis

- **There are no facilities changes that will mitigate the identified gaps in Assault Support.**

DOTLPF/Material Analysis

- **Are there current materiel solutions available to mitigate the capability gap?**
  - **If "yes", describe the recommended solution.**
    - Yes, Increase POR of CH-53K, KC-130J, and fund KC-130T AMP, OSA recapitalization.
- **Are there any current service/joint solutions available which meets the requested capability? If yes explain.**
    - Yes, CH-53K and KC-130J are Programs of Record. USAF is working on an Avionics Modernization Program for their C-130s, but having problems in the JCIDS process. The UC-12 replacement received Congressional money in the last supplemental. USN is replacing some of their C-9s with C-40s.
  - **Is MC participating in another service's program?**
    - Yes, C-130J purchase.
  - **Is the MC developing a solution that is independent of other services?**
    - Yes, CH-53K is USMC specific due to unique amphibious nature of USMC Heavy-lift.

DOTLPF/Material Analysis

- **If new start, describe recommended solutions.**
  - C-40 as a replacement for the C-9 would be a new start for the Marine Corps, but not DoN.
  - **Is technology available/unavailable?**
  - Available.

DOTLPFM Impacts

- **If recommended solution is a material solution describe DOTMLPF implications.**
  - Additional CH-53 Squadron(s):
    - **(T)** Additional training capacity needed from FRS and for T&R in-squadron training, **(O)(P)** additional squadron(s) with associated personnel, **(F)** possible additional facilities required at gaining MCAS.
  - MV-22 payload /performance enhancement efforts:
    - **(T**) Additional training required to train to new weights and speeds, (**M)** Additional testing is required to test the payload performance.
  - Additional KC-130s:
    - **(T)** Additional training capacity needed from JMATS and for T&R in-squadron training, **(O)(P)** possibly an additional squadron with associated personnel, **(F)** possibly additional facility required at gaining MCAS.
  - KC-130T AMP:
    - **(T)** Will need to train aircrews on new systems, **(M)** fund AMP, **(P)** AMP will result in reduction to the number of aircrew (removal of Navigator MOSs- 7372 and 7380).
  - Replacement Aircraft for UC-12 and C-9:
    - **(T)** New training for new aircraft, **(M)** purchase new aircraft T/M/S.

Non-Material Recommendations

- Complete Assault Support ICD due Jan ’08.
  - Addresses capability gaps in all Assault Support aviation capabilities.
- Evaluate MEB and MEU ACE Mix, due to weight growth of the MAGTF IOT increase the lift capability of the MAGTF.
- Support MV-22 payload/ performance enhancement efforts IOT increase the lift capability of the MAGTF (combination of material and non-material solutions).

Material Recommendations

- Potential increase to POR for CH-53K IOT increase the lift capability of the MAGTF (maintain recommendations of 202K Marine Corps).
  - TBD- Assault Support ICD.
- Potential increase POR of KC-130J IOT better support the MAGTF commanders.
  - TBD- Assault Support ICD.
- Fund KC-130T AMP IOT increase capability of Reserve KC-130 community and ensure world-wide deployability.
- Replace UC-12 and C-9 Aircraft IOT maintain capability.

Back-up Slides

Key Attributes Needed to Resolve the Gap

- **CH-53K: Provide for Assault helicopter transport of heavy weapons, equipment, and supplies during amphibious operations and subsequent operations ashore for the MEB.**
  - **STOM metrics require conducting movement and sustainment of amphibious MEB vertical assault element from 110 nm within one 8 hours period of darkness.**

- **MV-22: Provide assault transport of combat troops in the initial assault waves and follow-on stages of amphibious operations and subsequent operations ashore for the MEB.**
  - **STOM metrics require conducting movement and sustainment of amphibious MEB vertical assault element from 110 nm within one 8 hours period of darkness.**

- **KC-130J: Provide for the Aerial Refueling, DASC(A), Aerial Assault Transport, Rapid Ground Refueling, and Air Evacuation needs of the MEB.**
  - **KC-130 POR of 51 KC-130Js and 28 KC-130Ts leaves the Marine Corps at a medium-high risk level to accomplish all tasked missions as analyzed in the KC-130J requirements Study.**

- **OSA: Provide the time sensitive air transport of high priority passengers and cargo between and within a theater of war.**
  - **The aging C-9 and UC-12 aircraft are both facing obsolescence and high-time maintenance issues.**

Possible Solutions
Non-Materiel/Materiel

- D**OTM**L**PF**:
  - **Assess the ACE medium/ heavy lift mix**
    - Increase in weight of the MAGTF (up-armored HMMWV, JLTV, MTVR) has required more loads to be lifted by CH-53Ks only, vice MV-22.
      - MEB 2015 mix is 48 MV-22 and 20 CH-53
      - MEU 2015 mix is 12 MV-22 and 4 CH-53
    - Other mixes are more efficient for STOM/ MEU mission execution. A complete analysis including training/ pipeline/ attrition needs to be done.

Possible Solutions
Non-Materiel/Materiel

- **DOTMLPF**:
  - **Increase CH-53K POR and number of heavy Lift squadrons (proposed in 202K MC).**
    - Increase in weight of the MAGTF (up-armored HMMWV, JLTV, MTVR) has required more loads to be lifted by CH-53Ks only, vice MV-22.
    - Adding more HMH squadrons will have Organizational, Training, Material, Personnel and Facilities implications.

Possible Solutions
Non-Materiel/Materiel

- **DOTMLPF**:

- **Test MV-22 to determine external lift capability of both weight and airspeed.**
  - The MV-22 has 2 hooks that are rated for 10,000 lbs each. The plane was designed to lift 15,000 lbs with dual hooks, but has not been tested higher than 10,000 lbs.
    - Current clearance is for 10,000 lbs, single hook.
  - Speed of aircraft during externals is limited by aerodynamics of the load.
    - Need to develop high-speed external capability.
  - Increasing the external lift capability/ airspeed of the MV-22 will have Training and Material implications

Possible Solutions
Non-Materiel/Materiel

- **DOTMLPF**:

- **Increase POR of KC-130J.**
  - Current POR of KC-130J is 51 aircraft, of which the Marine Corps is funded to 45 aircraft.
  - The KC-130J Requirements Study recommended an inventory of 85 KC-130J (and 28 KC-130T) aircraft to provide a Medium risk level when confronted with traditional, irregular, catastrophic and disruptive challenges.
    - The current POR places the Marine Corps between a Medium-High and High risk level to complete all tasked missions, conduct training and supply the depot pipeline.
  - Increasing POR of KC-130J will have Training, Material, Personnel and possibly Organizational and Facilities implications.

Possible Solutions
Non-Materiel/Materiel

- **DOTMLPF**:
  - **Fund KC-130T AMP**
    - KC-130T AMP is required IOT enable the aircraft to deploy world-wide.
    - It will solve CNS/ATM mandated issues.
    - It will eliminate the requirement for the Navigator aircrew position

Possible Solutions
Non-Materiel/Materiel

- DOTMLPF:

- **Replace UC-12 and C-9 Aircraft.**
  - UC-12 is facing expensive wing spar replacement requirements and CNS/ATM mandates. More cost effective to replace aircraft. Congress has already funded 1.6 aircraft.
    - Replacement aircraft include ASE equipment.
  - C-9 is facing obsolescence issues due to commercial market divesting of the DC-9 aircraft by 2011. Replacement parts will need to be purchased in the international market or manufactured by the Navy.